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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 3 1924

REPORT FOR WEEK ENDING OCTOBER 4, 1924.
(Unless otherwise indicated.)

HAVRE:

Harvesting of corn on the rotations and varieties was completed during the early part of the week. Following the frost of last week there was some loss of leaves. The silo on the station is filled, the most of the corn having been cut before the freeze. Some of the plats are sufficiently mature for husking, while others are soft and some, especially fall plowing, set very few ears due to the drought of July. Many of the varieties are well along, some of them showing grain that is well filled.

The week has been somewhat cloudy with several small showers but not totaling enough to materially aid fall plowing.
Maximum temperature 82, minimum 32; precipitation, Trace.

JUDITH BASIN:

Threatening weather has prevailed throughout the week, and light snows were received on the 3rd and 4th.

Plowing, listing and sub-soiling on the rotations were completed during the week. Potatoes were dug, and aside from the cereal nursery, the remainder of the threshing was completed. Threshing of the cereal nursery is now in progress. With the exception of weighing corn fodder and digging a few rows of root crops, all fall work on the experimental projects has been completed.
Maximum temperature 77, minimum 29; precipitation .06 inch.

HUNTLEY:

The first half of the past week was warm and bright but the last three days have been cool and cloudy with frequent showers. These showers may be sufficient to germinate winter wheat and rye which was planted in dry soil. To date the only fall-sown grain to come up is that which was seeded on summer fallowed land. The stand on these plats is spotted and generally thin, due to the irregular distribution of the surface soil moisture.
Maximum temperature 85, minimum 29; precipitation .26 inch.

SHERIDAN:

Threshing of everything except a few cowpeas and soy beans was completed during the week, and the potatoes have been dug. Yields, however, have not yet been computed as it was necessary to clean the flax and navy beans with the fanning mill before getting the final weights. Plowing and listing also were completed and a small amount of corn husked. Winter wheat up to and including the September 15 seeding emerged early in the week.

Considerable threshing of small grains yet remains to be done around here. Yields in general have been the best in years.
Maximum temperature 85, minimum 32; precipitation .70 inch.

DICKINSON:

Threshing of the cereal nursery was finished during the week. This completes all threshing unless a hard freeze should be delayed a couple of weeks, so that a patch of alfalfa should ripen seed.

Several bushels of Northwestern dent seed corn were picked.

Potato varieties were dug on the 3rd. The yields are much below those of 1923. Ohios were highest in total yield with about 100 bushels per acre. Cobblers likely will have the highest yield of marketable potatoes. Two plats of Cobblers on the rotations grown on fallow and on wheat stubble were dug but not weighed. The yield of these plats will probably be higher than those in the variety test.

Filling of the silo was completed after being delayed by trouble with the binder. The yield of silage was about 4 tons per acre.

A rain and snow amounting to .93 inch fell on the 4th. This may make fall plowing possible on farms. To date none has been done because of the dry soil.

Maximum temperature 87, minimum 30.

MANDAN:

Practically all fall field work has been completed, except corn husking, which cannot be done for some time yet.

Seed corn picking continued during the week, and nearly all of the self-pollinated ears in the corn breeding work have been harvested. A good deal of very good seed corn will be obtained this year.

Two blocks of alfalfa for seed were harvested during the week. The yield will be light. Alfalfa seed was late this year as most of the seed was produced from secondary blossoms.

Winter wheat and winter rye, which were seeded sometime ago, are just coming up.

The total rainfall for the month of September was 1.34 inches. The 50-year mean for the same month is 1.32 inches. The total precipitation for the year, to September 30, inclusive, is 13.97 inches. The 50-year mean for the same period is 14.93 inches.

Maximum temperature 82, minimum 30; precipitation 0.

Cooperative Grazing Experiment.

The gains per head of the cattle in the various pastures for the month of September are given in the following table. Each pasture carries 10 head of 2-year old steers, except the rotation pasture, which carries 16 head, and the brome grass pasture, which carries 14 head.

Mandan, continued:

The 30-acre steers are still on their pasture, as their loss for the month of September was light.

Pasture	Sept. gain or loss	Gain to date.
100-acre	34	335
70-acre	51	334
50-acre	41	330.5
30-acre	- 4.5	262.5
Rotation (70 acre)	56.3	312.2
Brome (35-acre)	22.5	276.4

Prof. Shepperd, from the Agricultural College, was here when the cattle were weighed, and picked out 20 head, which will be shipped to the Agricultural College. These steers will be used for a feeding experiment with different kinds of silage.

Arboriculture.

All trees in the shelterbelt nursery that will be used for planting next spring have been run under with the tree plow, to hasten the dropping of the leaves. It will probably be a week or ten days before the stock is ready to pull.

About 100 pounds of ash seed was gathered in the vicinity of Mandan the first of the week.

Visitors of the week included Stewart Lockwood and R. L. Shotwell, Bureau of Entomology.

Horticulture.

Fruit picking was finished on October 2, with the harvesting of the Emerald plums and Virginia crab-apples. The quality of both these fruits was good, but the yield of the crabs was light, due to severe frost damage at blossom time.

Small fruits are now being pruned and hardwood cuttings of currants are being made.

Vegetables are all harvested, and very good yields were obtained. Only light frosts have occurred up to the present time, and tomato and peprer vines are still green, with fruit ripening right along.

Mandan, continued:

All selfed ears in the sweetcorn breeding plat, numbering around 1100 ears, have been harvested. Owing to the late season, the majority were not ripened very well and are, therefore, being cured in the seed-house. The usual number of the earlier ears for bulk planting next year have also been collected.

Propagation of tender bedding plants in the greenhouse has been completed. So far all beds of the grounds are not touched by frost and are still in bloom, as is also true of the Hydrangeas and hyorid rugosa roses.

BELLE FOURCHE:

All of the corn on the dry land rotations was cut and shocked during the week. The corn will be of good quality but the yields, even in the best plats, will not be heavy. Much of the corn in this section is ripe but there is a great deal of corn that will not ripen. To date there has not been a frost heavy enough to damage corn badly. On four occasions there has been frost heavy enough to kill some of the foliage, but none heavy enough to kill all of it. The weather, however, is cool and corn is developing very slowly.

Rain fell on three days during the week but the total amount was only .35 inch. The soil is not wet sufficiently to insure germination of winter grain on any plat.
Maximum temperature 90, minimum 32.

ARDMORE: Week ending September 27, 1924.

The week for the most part has been cool and cloudy with a little precipitation in the form of rain and a snow flurry of no consequence. Up to the present time there has not been a killing frost.

Fall plowing of fields is being continued with great difficulty. Some of the rotation plats of corn have been hauled in and weighed. Most of the plats did not produce any grain.

Steers used in the grazing experiment were weighed today and will be weighed again Monday and Tuesday, and those on the 80-acre and rotation pastures will be removed from the pastures. The steers on these two pastures have scarcely any feed left, and have lost heavily for the last thirty days. The losses for the last half of September were as follows:-

150-acre pasture	- 9.5 pounds
80-acre pasture	-33.5 "
Rotation pasture	-35.3 "

Maximum temperature 89, minimum 33; precipitation .37 inch.

ARDMORE:

The total precipitation for the month of September was 1.24 inches. This brings the total for the year up to 8.92 inches. The rainfall during the month of September was of no benefit to crops as they were all harvested or mature before the first of the month.

There was a light frost on the 29th of September which killed garden plants such as melons and tomatoes. This frost was reported to have damaged alfalfa and other field crops on the creek bottoms in the vicinity of Ardmore.

The alfalfa seed crop in this section is good. A good many fields have been threshed and are yielding on the average about four bushels per acre. The acreage of alfalfa in this section is increasing very rapidly and much of it is being grown for seed.

Maximum temperature 85, minimum 32; precipitation 0.

ARCHER:

The weather has been cool and damp. Snow and rain occurred October 2 and 3 with a total precipitation of .21 inch. One day's threshing was done October 1 and a half day October 3, but high northwesterly winds prevented the continuance of this work today. The yields of grain thus far threshed indicate an average of about 10 to 11 bushels per acre. Potatoes are being dug today. The last of the silage was put in September 29 and 30.

Maximum temperature 76, minimum 30; precipitation .21 inch.

NORTH PLATTE:

After much preliminary threatening, the first killing frost of the season occurred on the night of September 28, just two days in advance of the average fall frost date. Minimum temperatures of 26 degrees on the bench and 32 degrees on the table were recorded.

Winter wheat was seeded on the D.L.A. project September 23-24. Plants began to emerge on the 29th, and was practically complete by October 3. Good stands were secured on all methods of seed bed preparation.

September precipitation was slightly in excess of normal. The accrued deficit since January 1 at North Platte was 0.51 inches, or 39 per cent of normal.

Work of paving the roads from North Platte to the station was completed September 27. Inside the station grounds roadways are being widened and curbs put in, in preparation for surfacing with gravel.

COLBY:

The first killing frost of the season occurred on the night of September 28. This frost was very severe and killed all vegetation. Very few of the sorghums were mature at time of the frost. The D.L.A. plats were harvested immediately and other sorghums were cut as rapidly as we could get to them. The milo on summer tilled land was the only plats which were mature by the time that the frost occurred. Kafir on summer tilled was not fully mature. All corn plats were mature as well as the field of commercial corn. The later corn varieties were not mature.

One silo holding approximately 100 tons was filled with early sumac during the week.

Winter wheat is up to a good stand on all but two plats, the Pinto bean plat and the continuous stuboled-in plat. Volunteer wheat over the county and on the plats has made a good growth this fall. Not much Hessian Fly is in evidence. There is considerable rust showing on the volunteer wheat. A date of seeding test to determine the Hessian Fly free date is being conducted this year. Some fall listing has been done on variety and commercial fields.

Visitors during the past two weeks have included the members of the State Board of Administration, the State Architect, the Business Manager, President Jardine, of the Kansas State Agricultural College, Director Farrell, of the Kansas Station, Prof. F. W. Bell, of the Kansas Station, the State Accountant, the Brewster and Herndon High School agricultural classes.

The seasonal precipitation for 1924 is 9.33 inches which compares with a 37-year average of 14.24 inches.

HAYS:

The first killing frost, in fact the first frost of the season, occurred on the morning of September 29, when a minimum temperature of 27 was recorded. The maximum for the week was 94. The weather generally remains dry with widely varying temperatures and extremes in wind velocity.

Seeding of winter wheat was commenced on the plats September 25 and finished during the last few days of the month except for some reserve and uniform treatment plats.

All kafir was harvested September 30. A few of the tardy plats were only about 60% mature but the growth was stopped by the frost and winds which had previously dried the foliage until it was wasting. Most of the plats were nearly all mature.

GARDEN CITY:

Ideal fall weather has prevailed throughout the past week. On the night of the 28th the temperature went down to 32 and a slight frost damage could be noticed on some of the station crops. Crops growing in the valley were quite badly frosted.

Practically all of the dry land milo is now in the shock and the kafir will soon be ready to harvest. A good stand of winter wheat was secured on practically all plats.

Maximum temrerature 89, minimum 32; precipitation 0.

DALHART:

Since the partial killing frost of last Saturday night, September 27, there has been no frost. The temperature on that night was 33, but there was sufficient frost to kill some plants entirely and to injure others only partially. However, it did not kill or seem to injure any of the field crops. In some localities the frost was sufficient to kill the field crops. The week has been quite windy, but clear weather has prevailed most of the time. One evening the wind changed suddenly to the north and a real storm threatened. It did not make its appearance, however, except in the form of a light sprinkle. The weather as a whole remains cold.

Crops have been maturing slowly during the past week. Some harvesting was done during the week to the extent of 20 plats. This included some of the date of planting, variety and rate work. The crops contain so many late suckers that are headed, that they are unlikely to mature fully. In most cases the parent plant head is mature. Seed was selected from all varieties that were harvested. Seed from the field corn was selected yesterday and today. The field corn will be harvested the first of the week. The corn crop this year is unusually good for this section.

The seed crop from the cowpea varieties was harvested during the week. A large amount of whippoorwill cowpea seed was also picked. There are about one and one-half day's picking of this seed yet to be harvested. As soon as the seed is removed, the cowpea vines will be harvested for feed. There are about two to three tons of good vines in the field from which the peas have been removed. It is hoped that this work can be finished before frost in order to save the leaves. From present indications the Mexican beans on plat 300-B, which were replanted three times due to grasshopper damage, will make a fair yield of beans. The beans have made rapid progress since August 12, and pods have set on rapidly. With just a little more time they will mature in fair shape so that the peas will go ahead and cure on the vines after harvest.

The frost of last week has turned the leaves on many of the trees and has started them to shedding. The trees most effected are the American elm and green ash.

TUCUMCARI:

A temperature of 34 and one of 36 degrees, both of which were accompanied by white frost on portions of the station, injured kafir but slightly and it is hoped the late plats will mature. Milo was injured rather severely and the majority of plats have been cut. Cane for silage was hurt to some extent and the silo is now being filled. All broadcast cane, all corn plats, spacing test kafir plats, and many of the date and variety plats, were cut the past week. With the exception of a few late date plats and variety plats, M. C. cane, and a portion of the increase cane, all binding except the north field kafir plats has been completed. Incase a heavy frost occurs this cutting can be completed within two days. A large amount of heading remains to be done, among this being north field milo plats and three increase strips of kafir from which seed will be saved.

Maximum temperature 89, minimum 34; precipitation 0.

BIG SPRING:

Weather during the past week has been warm and dry; this condition has been very favorable for cotton picking, with the result that the grade has been exceptionally fine. At present the demand for pickers is far in excess of the supply.

The M. C. Sorgos and some grain and forage sorghums were harvested this week. The remainder of the week was devoted to heading milo and feterita and in picking cotton. All of the station cotton has been picked over twice and some three times. The yield is going to be about a third of a bale per acre; this is about half the yield made last year.

Maximum temperature 93, minimum 40; precipitation 0.

WOODWARD:

Most of the week has been very windy and dusty. Work done during the week has consisted principally of harvesting, filling silo, hauling and spreading manure. Some wheat and rye have been planted. Kafir on D.L.A. plats has been harvested.

Mr. Chilcott, the superintendent, and Mr. Stauber, dairyman, have been attending the National Dairy Convention, at Milwaukee, Wisconsin during the week.

Maximum temperature 89, minimum 39; precipitation .03 inch.
Evaporation (4 days) .792 inch. Average wind velocity 7.6 m.p.h.

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U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR WEEK ENDING OCTOBER 11, 1924.

HUNTLEY:

The past week has been cool with much cloudy weather and frequent showers which have interrupted field work to some extent. However, some miscellaneous plowing and mowing was accomplished and the Dry-Land potatoes were dug. The rainfall of a week ago, together with the precipitation of the last few days, has served to germinate some of the winter wheat which has been lying in a dry seed bed to date. Wheat on many of the fallowed plats now looks quite green but the stand is still thinner than desired. Corn in the shock is drying slowly because of the continued cloudy weather.

Maximum temperature 72, minimum 25; precipitation .57 inch.

DICKINSON:

The weather has been noted for several cloudy days and the heaviest rain of the season. To date, in October, the rainfall amounts to 3.10 inches, a new high for the month. The 32-year average for October is .75 inch.

Cobbler potatoes in the rotations yielded 164 bushels on fallow and 192 bushels on spring plowed wheat stubble.

Root crops were pulled during the week. Thin and spotted stands of mangels and rutabagas resulted in low yields. The best variety of mangels yielded at a rate of 11.2 tons and rutabagas 6.6 tons. Rape and kale in rows made 16.6 and 15.0 tons of green material weighed when cut.

All fall seeded grains now show good stands.

Previous to this week no plowing had been done on farms because of the dry soil. Some has now been started and a good deal will be done unless an early freeze prevents.

About 15 to 20 per cent of the threshing on farms in the area is still to be done.

Repairs for the pump attachment on the wind electric plant, which broke on the 2nd, were received on the 8th. Owing to the large storage capacity of the tank the station was without water only two days.

Maximum temperature 70, minimum 26; precipitation 2.23 inches.

MANDAN:

Agronomy.

The past week has been cloudy for the most part. Weather conditions were unfavorable for drying corn.

Mandan, continued:

The remainder of the seed corn was gotten in during the week, and is being dried as rapidly as possible. While the seed corn is very good, it has a high moisture content, and will require very careful drying.

The rainfall during the week is the highest amount that has been recorded for October since 1915.
Maximum temperature 71, minimum 29; precipitation 1.79 inches.

Cooperative Grazing Experiment.

The pipe line leading to the watering troughs has been disconnected for the season to avoid a sudden freeze. A short line was completed from the 50-acre pasture to the dam, so that the 50-acre steers can water at the dam.

Arboriculture.

Russian olive seed, picked from station trees, was cleaned and stratified. The field weight of 280 pounds was reduced to 163 pounds by cleaning. Forty-six pounds of Tartarian maple seed, picked in early September, were soaked and flailed, and then run through the fanning mill. This process removed all the wings without injury to the seed, and yielded 17 pounds of cleaned seed.

Leaves still hold on the nursery stock. It will be the middle of next week at least, before pulling of shelterbelt planting stock can begin.

Horticulture.

Currant cuttings have been made, and most fruits pruned. London Market, Pomona, Perfection, and White Grape currants are being propagated to distribute to fruit cooperators.

All vegetables in the acre-garden have been harvested. A few yields of truck crops in this section as obtained under the rotation system in operation in the garden were, as follows:

Early cabbage	13 tons per acre
Fall "	19.5 tons per acre
Onions	585 bu. per acre at 52# bu.
Navy beans	21.5 " " " " 60# bu.

All root crops, squash, and tomatoes also gave excellent yields. Tender bulbs and bedding plants were removed from the beds on the grounds and stored for the winter.

The husking of sweetcorn for seed and the cleaning and sorting of tomato seed from the 1924 selections has been in progress during the week.

Fruit seeds for breeding and rootstock purposes have been washed and stratified in sand.

ARCHER:

During the past week the weather has been unsettled and cool. There has been .42 inch of precipitation with traces on October 10 and 11. The maximum temperature was 72 and the minimum 22 degrees. This temperature killed most of the vegetation; however, the ash and elm still retain their leaves.

The last of the threshing was done this week and the potatoes were dug. The quality of this crop was good notwithstanding the light yield.

The abundance of rain has caused the grasses to make considerable growth and the winter wheat is looking very good.

DALHART:

Another week has passed without a killing frost. A good rain broke the spell of weather that has been prevailing during the past two or three weeks and the temperature has been more moderate. The past week has been quite windy with considerable cloudy, unsettled weather. Frost has been predicted twice during the week but it failed to make its appearance. In many localities over the country frost has already hit pretty hard. It did the damage on the night that the temperature reached 33, (September 28). One field of milo, one mile east of the station, was hit pretty hard. In each instance the damage was done in low places.

Field work during the week was retarded by the rain which hindered field operations for three days. The remainder of the time the work has progressed as rapidly as possible. More seed was selected during the week and considerable harvesting accomplished. The milo on all rotations in the north field was harvested. Several plats of kafir that were mature in this field were also harvested. This week saw the finish of the gathering of cowpea seed. One plat of seed in the variety cowpeas remains but it is not quite ready. With just a few more days of frost-free temperatures and the plat fields will look rather ragged. Many of the plats will do to harvest the first of the week. Some that will not have a chance to mature grain will be harvested in order to save as much as possible of the leaves which are beginning to fall off.

Maximum temperature 84, minimum 35; precipitation .74 inch.

TUCUMCARI:

A general rain, amounting to practically an inch at the station, fell during the week and was very beneficial to small grain farmers, germinating wheat which had been sown in dry soil.

Tucumcari, continued:

Although a real killing frost has not been received on the station crops lying within a mile of here were heavily frosted two weeks ago, necessitating cutting, while it is reported that the plains section, about thrity to fifty miles south of here, has received a severe frost.

Silo filling has been completed; broomcorn pulling completed and the plats weighed; all sorghum plats cut and shocked with the exception of the north field and late date and late variety plats; and some time has been spent in pulling sucker rod and pipe on one of the wells.

Heading of milo plats and increase kafir will probably be begun early next week. There is so little harvesting left to be done with the row binder that this can be completed in less than two days, whenever frost makes it necessary.

Maximum temperature 85, minimum 38; precipitation .99 inch.
Wind velocity 6.3 m.p.h.

WOODWARD:

There were two or three days during the week too wet for working in the field. Wheat was run through the fanning mill and hauled to town and sold, and repairs were made on the farm machinery. The remainder of the week was spent in harvesting; most of the time was spent in heading milo and some binding has been done. The last of the grapes were picked, also a few peaches and apples. Mole runs were treated with calcium cyanide, 13 lbs. having been used on the D.L.A. plats. Broomcorn on D.L.A. plats was pulled and seeded and put on the racks to cure.

Superintendent F. F. Chilcott, and Dairy Herdsman C. J. Stauber, returned to the station this week from the National Dairy Convention, at Milwaukee.

Maximum temperature 81, minimum 51; precipitation 1.13 inches.
Wind velocity 0.1 m.p.h.

BELLE FOURCHE:

This has been the rainiest week of the year. On the 9th rain started falling about 5 o'clock in the morning and by 3 o'clock in the afternoon 2.14 inches had fallen. Nearly all of this rain was taken into the soil, only the fallow plats showing any material amount of run-off. On the 11th rain started falling about 2:00 p.m. and by 8:00 p.m., when it ceased, 1.17 inches had fallen. The run-off was much heavier than from the preceding rain. The total rainfall for the week was higher than the total amount falling in any previous two months this year.

Bellefourche, continued:

The temperature fell below freezing for the first time this season on the morning of the 6th when it registered 31. The foliage of susceptible plants had been reduced so much by repeated light frosts that it was not possible to tell whether this frost was at all severe. There has been no frost injurious to the stalks or ears of corn.

Stock shipments from this section are exceptionally heavy this fall. On the 10th 35 cars of live stock were shipped from Newell. The bulk of the shipment was cattle.

Maximum temperature 76, minimum 31; precipitation 3.31 inches.

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U. S. DEPARTMENT OF AGRICULTURE

OCT 1 1924

REPORT FOR WEEK ENDING OCTOBER 18, 1924.

HUNTLEY:

Fair weather has prevailed most of the week and field work has been resumed throughout the community. Farmers are now busy threshing beans and fall plowing on the benchlands. Corn, which is not being pastured off, is now all harvested, and much of this land, together with bean ground, is being seeded to winter wheat. Because of dry seed-beds very little wheat has come up in this district. Winter wheat and rye on the plats looks about the same as it did a week ago. Thin stands are showing on fallowed ground, but no wheat is visible on other cultural methods.

Soil sampling has occupied most of the week. Except for the land in fallow during the past summer, all plats sampled showed the soil to be dry. Fallowed lands shows moisture through the second foot in all cases and occasionally the third foot is wet through.

Maximum temperature 76, minimum 26. Precipitation .10 inch.

SHERIDAN:

The past week has been quite favorable for field work and for the curing of corn and forage crops. Husking of all corn from the experimental plats is being completed today. Weights have been secured only on a part of the Rotation corn that was dry enough to haul and weigh before husking. All of the ears contain considerable moisture, and it will be necessary to secure dry weights on samples taken before yields can be determined. Estimating from the weights secured, the Rotation field probably will run from 25 to 30 bushels per acre with about 10 per cent small and poorly filled ears and immature corn.

Threshing around here seems to be fairly well completed now. Yields generally have been considerably above the average, and of excellent quality. Some fall plowing and seeding of winter grain is in progress. The ground is now in good condition for plowing.

Winter wheat in the Rotations and Varieties and the winter rye emerged during the week of October 11. The October 15 seeding of winter wheat emerged during the present week.

Maximum temperature, week of October 11, 75, week of October 18, 73;
Minimum temperature, week of October 11, 25, week of October 18, 27;
Precipitation, week of October 11, .40, week of October 18, .02.

DICKINSON:

Since Sunday the weather has been warm, calm, and pleasant. The grass is greening up almost like spring time. Winter grains have made a good growth during the week.

The soil is wet to a depth of about 15 inches on grain stubble. Considerable plowing is being done on farms.

Dickinson, continued:

Threshing of flax was resumed in the locality on the seventeenth. Other grains are still too wet for a good job.

About an acre of Kanred winter wheat was seeded on the station in oats stubble on the eighteenth. Yields of winter wheat have been much above the average during the past two years and it is probable that farmers will seed more than usual as a result of the rains.

Most of the week was used for cleaning up odd jobs about the station. Manure was hauled on the garden, pits dug for hotbeds, and roads graded. Manure was also hauled in the gullies in the rotation roadways caused by the recent rains.

Mr. C. N. Ainslie, Bureau of Entomology, was here on the seventeenth to study further the Hessian fly situation. He found an abundance of the fly in the flaxseed stage but could locate neither the adult fly nor eggs on green wheat.

Maximum temperature 71, minimum 31, precipitation .21. Total rainfall in October 3.37 inches, total to date for 1924 is 14.23 inches.

MANDAN:

Agronomy.

The past week has been exceptionally favorable for all field work. The weather has been favorable for drying corn which should be in condition for husking in about two weeks.

Potatoes were dug during the week in rotations 75 and 76 and yielded 132 and 146 bushels per acre respectively. While the yield was not high the quality was good and the potatoes were about 90 per cent marketable.

Maximum temperature 70, minimum 36, precipitation .03.

Cooperative Grazing Experiment.

The cattle were removed from the 30-acre pasture at the end of 140 days. This is the longest period the pasture has been able to carry the cattle since 1916. The steers lost 18 pounds per head during 20 days in October. It was necessary to move the steers from the brome-grass pasture as they were out of feed and has lost 22 pounds per head during 20 days in October. While there was some growth taking place in the pasture it was not enough to supply the demands of the cattle.

Ten acres in one corner of the brome-grass pasture is being plowed. This area will be seeded to sweet clover next spring for pasture. This area was selected as it was the only one that afforded a ready water supply without cutting an area off the 100-acre pasture.

ARBORICULTURE.

Pulling shelterbelt trees has been in progress all week. Most of the stock is of excellent quality. This work will be finished the first of the week, with the exception of fumigation and heeling-in.

Mandan, continued:

Horticulture.

Potatoes were dug on October 13 and 14. The size and quality of the potatoes were generally fairly good this year, but yields were not high. The yields were probably reduced to a considerable extent by degeneration diseases. None of the potato selections appear to be of any special value. Irish Cobblers were the best yielders.

Celery was dug and stored in the root-cellar. The Fordhook variety was espceially good.

All nursery stock to be dug this fall was ran under by the digger to encourage the early maturing of the wood and dropping of the leaves.

The fruits of Pyrus baccata are being picked for seed purposes.

ARCHER:

The weather has been very delightful. The days have been warm and sunny, and only one night reached a freezing temperature. The pasture grasses are green. The early plowing on the Dry-land plats was accomplished during the first of the week and the husking of the corn is in progress.

Maximum temperature 75, minimum 29, precipitation T.

COLBY:

Winter wheat continues to look fine. Stands of winter wheat on all of the plats are excellent. The early seeding, September 1, of winter wheat has made a very good growth; practically enough to cover the ground. That seeded after September 15 has made a good growth and looks fine, though not so luxuriant as that seeded earlier. Moisture conditions have been fine for winter wheat since the middle of September. There is no surplus moisture in the subsoil, except on the summer-tilled plat. Moisture determinations have been made on the four MC-series of winter wheat, on the continuous stubbled-in plat, and the three wheat plats in Rotation 574 (on corn ground, on early fall-plowed, and stubbled-in after plowing the year previous.)

There will be some soft corn in the county this fall. The corn on the station was far enough advanced so that a good quality of corn is expected. Yields will be very light, however.

Fewer fields of sorghum matured than we have noticed in the past four years. More milo was grown this year than has been the custom in the past. Several of these did not mature seed.

This year made the tenth season that a small field of alfalfa has been grown on the station. The stand is still very good for ten-year old alfalfa. The first five years that this field was in alfalfa it was irrigated, the past five years it has received no irrigation.

Work has been started on the new residence for the Superintendent. The basement is dug and forms are in for the pouring of the concrete walls of the basement. The footings are already in. The present plans are to have the house completed by the first of January.

TUCUMCARI:

The week was favorable for field work, and seeding of increase kafir and milo and of fifteen north field three-tenth acre plats was completed. Some harvesting of rotation kafir and late date plats was done leaving only about thirty of the latest plats to be harvested.

During the past week the weather has moderated, only two nights showing temperatures below 47 degrees. The warmer weather, combined with occasional high winds, has resulted in rapid maturity of many sorghums and opening of a fair amount of cotton.

Threshing and cotton picking can be started within a week, if pleasant weather continues. Acala cotton has opened more extensively than any other variety.

Maximum temperature 82, minimum 35, wind velocity 6.1, precipitation 0.0.

BIG SPRING:

A rain of 1.36 inches fell October 6. This delayed the cotton picking for a few days and also injured the grade somewhat. Since that time weather conditions have been ideal for cotton picking and gathering feed crops. The rain last week soaked the soil up so that an ideal seed-bed for wheat could be prepared. The plats were disced October 10, planted on the eleventh, and were all up to a good stand by the sixteenth.

The second cutting of Sudan grass was hauled in this week, and some was threshed for seed. Yesterday the work of filling silo was started; the cane this year has made a good growth and should make a fine quality of silage.

Mr. J. M. Jones, of the Animal Husbandry Division of the Texas Agricultural College, was a station visitor October 8 and 9. Several herds of cattle were visited for the purpose of locating some calves for the feeding work this winter.

Maximum temperature 93, minimum 53, precipitation 1.36 inches.

LAWTON:

The autumn weather has been ideal for the maturity of cotton and the picking of the crop. An unusually large crop is going to market in excellent shape and commanding a profitable price. One-half of the total crop is not yet picked and pickers are too few in number.

The dry, sunshiny weather of September and October have also been favorable to the harvesting and curing of sorghum crops. The late plantings of June and July make but little progress at maturity but retain a vigorous growing condition. Eighty-three plats of grain sorghums have been threshed. The grain has not been cleaned and weighed, but good yields in most instances are visible.

Wheat and barley have not fared so well as the above mentioned crops. The soil is very dry except on land that was prepared early and kept in good state of cultivation. Even there, the moisture is confined largely to the

Lawton, continued:

surface. Local rains from the eighth to the tenth of October improved surface conditions.temporarily. The rains scattered and varied largely in amount. Altogether about three-quarters of an inch was received on the station. Following these rains as soon as possible the fall seeding was done. There is probably enough surface moisture to germinate the grain on cotton land but subsequent growth is likely to be uncertain. Chinch bugs damaged the two and three peck seedings of wheat made on September 1 to the extent that it is advisable to plow the plats under. Whether the remainder of the rates seeded on this date will survive is uncertain.

From September 22 to 30 the weather was cool enough to indicate frost. However, the minimum temperature recorded was 38. Since that time the weather has been much warmer.

The precipitation for September amounted to 0.61, while for October to date amounts to 0.72. The total deficiency of precipitation from January to September, including amounts to 5.09 inches. However, the rainfall was usually fairly well distributed throughout the season and resulted in a prosperous year for farmers in this part of the State.

WOODWARD:

The weather has continued warm and dry. Practically all the week has been spent in filling silo, harvesting, and hauling in crops. Sudan and cowpea hay has been hauled in and stacked. Milo on the D.L.A. plats has been headed.

Maximum temperature 82, minimum 51, average wind velocity 5.8; no precipitation.

DALHART:

Favorable weather prevailed during the entire week. Crops have matured rapidly. One small shower broke into arrangements on the fifteenth, netting .14 inch. These late rains have aided in keeping off the frost. To date a killing-frost has not been recorded at this station. However, two frosts have occurred, which did considerable damage in places, and killed the leaves on practically all trees. Aside from this, and a few vines, such as melons, cucumbers, etc., nothing has been hurt on the station.

Harvesting was in progress all week. Practically all the plat work is finished and in the shock. The only plats remaining to be harvested are plats of kafir, and the last dates of planting. It is quite doubtful if the late dates will mature, unless it be the milo and feterita. It will not take long now to finish the harvest. Everything now standing will be left until it either matures, or is caught by a killing-frost. Fall plowing will be started this week, providing the kafir on the MC plats matures, so it can be harvested. Conditions are very favorable now for fall plowing.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

OCT 25 1924

WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

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U. S. DEPARTMENT OF AGRICULTURE

REPORT FOR WEEK ENDING OCTOBER 25, 1924.

HUNTLEY:

Practically the entire week has been devoted to the hauling and weighing of corn fodder from the Dry-land plats. Husking was begun and is still under way. Total yields and the yields of the husked corn indicate that this year's crop will be somewhat better than expected. The corn on the rotations is well matured and the fodder dry, so the weights obtained are reliable. Some of the corn in the varieties is immature and sappy and drying samples will have to be taken in order to obtain correct yields.

Winter wheat and rye is now up on all plats, good stands appear in all cases.

Maximum temperature 72, minimum 31, precipitation .04 inch.

SHERIDAN:

Rain the first of the week interfered with work with forage crops and corn for the greater part of the week. While the greater part of the week has been fair, drying has been slow. The greater part of the corn in the rotation field has been weighed and hauled, but it was necessary to take samples of each plat for moisture determinations. With continued fair weather the stover and sorgo will be in condition to haul during the coming week.

The last round of soil samples was taken yesterday and today. The ground was found to be wet down for about a foot to one and one-half feet. Fall seeded grain is making an excellent growth. The October 15 seeding of winter wheat is just emerging. A heavy volunteer growth is present on the continuous cropping plats of winter wheat.

Maximum temperature 70, minimum 33, precipitation 1.10 inches.

DICKINSON:

Warm pleasant weather continued through the week, with six clear days. The wind velocity averaged only three miles an hour.

Most of the threshing left after the rains early in the month was cleaned up. A few machines will require a week or ten days to finish for the season.

A good deal of plowing was done on farmsduring the week.

Corn on the rotations was husked but not weighed. Varieties of corn are being husked today.

President John Lee Coulter, of the Agricultural College, visited the station October 20 and addressed a meeting of the "Greater North Dakota Association" in Dickinson that evening.

Maximum temperature 72, minimum 29, precipitation T.

MANDAN:

Agronomy.

The weather has been exceptionally mild during the past week.

Alfalfa and millet are being threshed today. While the field of alfalfa seed will be light, the quality of the seed will be very good.

Maximum temperature 72, minimum 34, precipitation .05 inch.

Cooperative Grazing Experiment.

The grazing experiment closed for the season on the twenty-third. In spite of the fact that October has been a very good month, the cattle of all pastures lost weight during the month. The days for the final weights were ideal for weighing. The steers of the 50-acre pasture show a greater loss than those of other pastures. Their pasture became short towards the end of the season.

The following table shows the loss or gain per head for October, and the total gains per head for the season:

Pasture	October gain or loss	Seasonal gain
100-acre	-3.5	331.5
70- "	-17.0	317.0
50- "	-41.5	289.0
30- "	11.0*	244.5**
70- " Rotation	-17.2	295.0
35- " Brome	15.0*	254.3**

* Gain for ten days on Reserve pasture.
** Gain for 140 days on their pasture.

It will no doubt be about ten days before the cattle can be shipped, as the Agricultural College is not ready to market them.

Horticulture.

Nursery stock is now being dug, and any material to be sent out to farmers is being fumigated before it is heeled-in for the winter. Most of the budded stock in the nursery grew from 4 to 6 feet, and should make good one year old trees to send out.

The pruning of small fruits is almost completed.

Fall note taking is now in progress. Most trees made a good growth this year. In fact they are growing so vigorously in coulees and other places that it is becoming increasingly difficult to cultivate between the trees. If the coulees were planted again, wider spacing would be favored.

A number of fruit trees have been pulled out to make room for better varieties in the several plantings. The hybrid plums are gaining favor, as they have been hardy here in recent years, and give a product distinctly superior to most Americana varieties.

Mandan, contd.

Aboriculture.

Inspection and fumigation of shelterbelt trees was completed on the twenty-fourth by Professor R. L. Webster, Entomologist of the North Dakota Agricultural College, as a representative of the Federal Horticultural Board. The stock on hand of the principal varieties is:-

Northwest poplar	11,600
Green ash	34,000
Boxelder	37,650
Caragana	12,450
Tartarian maple	10,600
Chinese elm	2,975
	109,335

The trees are, for the most part, of excellent size, and are remarkably free from insect infestation.

Fall measurements of the pruning, spacing, and cultivation shelterbelt combination tests, were also completed during the week.

Stewart Lockwood, Bureau of Entomology, and R. L. Webster, Entomologist at the North Dakota Agricultural College, visited the station during the week.

BELLE FOURCHE:

The weather continues remarkably warm. No severe freeze has occurred. The trees are still holding their foliage and the general appearance of the country is that of September rather than late October. Rainfall this month has been sufficient to wet the soil enough to make plowing easy, and the weather has permitted field work most of the time. In spite of this there has been little fall plowing done in this section.

The potatoes in the dry land rotations were harvested during the week. The average yield of the two rotations was 106.5 bushels per acre. The size of the tubers was excellent, considering the season, the per cent marketable averaging 83.5.

About half of the corn plats were husked during the week. Most of the corn is good quality and well matured, but will require considerable drying before accurate weights can be obtained. The fodder is in poor condition due to the heavy rains earlier in the month.

All plats of winter grain are up with nearly perfect stands. The plats on corn ground came up several days earlier than those on plowed land.

Maximum temperature 70, minimum 33, precipitation 0. Precipitation for October to date 3.84 inches.

ARCHER:

All corn from the Dry-land plats has been husked and weighed and the variety corn is being husked. The remainder of the fall plowing is in progress.

Archer, contd.

On October 21 we received a new herd bull from the Hereford Ranch Holstein herd. His breeding is of the very best, hence he should be of considerable value to the station herd.

The first three days of the week were rainy and cool, the precipitation totalling 1.02 inches. The warm weather which followed has been of value to the winter wheat which is looking very good. The pasture grasses are green and the dairy cows are doing well upon them with but little other feed.

HAYS:

The weather continues dry with varying temperatures, which during the week ranged from 27 to 77 degrees.

Wheat generally does not look well. It is spotted in stand due to dry soil and is making poor growth, and needs rain badly at this time. There are, however, occasional fields on which there is a good stand. The best fields of wheat are those which were prepared by fallow. Some of the very early listed and plowed fields show a fair stand. There is also a fair stand on ground that was disced very early and on ground where the wheat was drilled in after burning off the stubble. Where drilled in the stubble there is no stand and the stand on ground worked late regardless of the method.

DALHART:

The weather here is rather unsettled. For the past week conditions have been variable. One shower was recorded, netting .13 inch. The temperatures are running lower this week than last; however, a killing frost has not been recorded to date.

Field operations were halted for a part of a day during the week on account of a small shower. Harvesting has been in progress intermittently all week. Today winds up the harvesting of the season. While the crops have not been hit by a killing frost, they have made maximum progress. The days and nights are so cold that the crops have come to a standstill. The remainder is being harvested before a killing frost, in order to save the forage. The leaves are dropping off so badly that, in case of a hard wind, the leaves would be lost to such an extent it would cut down the forage weights considerably. The grain on the crops being harvested today, would not mature in two weeks of warm weather. It is too late in the season to expect warm weather.

All fall plowing is finished in good shape. There was sufficient moisture present to make plowing possible at this time. The soil turned over in good shape. Cotton is opening in this section now. The station cotton is showing up favorably with cotton in the surrounding country. The Trice variety is opening earlier than any of the other varieties, and is making more cotton. At least it looks as if it would make a better yield than the others. The small grains are making rapid progress. It has stooled out until the ground is nearly covered. Most of the broom corn was seeded this week and weighed. It is making around a quarter of a ton per acre, most of it just above a quarter. The quality of brush is good.

Maximum temperature 78, minimum 35, precipitation .13 inc.

TUCUMCARI:

During the week all broadcast cane has been hauled and stacked, peanuts and cocked, and the first picking on twenty cotton plats made. Repairs were made on the separator and the outfit set up ready to begin threshing the first of the week. Corn was husked and hauled, average yield 22.2 bushels, stover yield 2,814 pounds. Grain yields ranged from 19.0 to 23.8 bushels per acre.

While a killing frost has not been received, late plats which have been left standing are maturing very slowly, due to cool nights and rather cool days. Very Likely several plats of kafir will not fully mature, while Sumac cane also promises to yield much immature seed. Cotton is opening well, although yields will probably average only about one-fourth bale.

Word has been received from the State College that steer calves will be fed here this winter, rather than yearlings, as in the past. Calves should arrive within a few days and will probably go on feed November 1 or 15, plans calling for 180 day feeding period.

Maximum temperature 81, minimum 37, precipitation 0.10 inch. Wind velocity 4.8 miles.

BIG SPRING:

Although frost was reported from various parts of the county on the night of October 23, the station thermometer only registered 34. This was the lowest temperature of the season, and many farmers report that their cotton was killed. A big crop of cotton has set on, so a freeze at this time would cause this to be of no value for the bolls are not well enough matured to open.

Filling of the silo was completed this week, and the rest of the Sumac, which was not needed for the silo, was cut. The Sumac this year is yielding well and is of a very good quality. This completes the harvesting for this year with the exception of a few scattered plats and a small block of sudan grass. The work for the rest of the week consisted of picking cotton and threshing cowpeas.

Maximum temperature 80, minimum 34; precipitation .06 inches.

LAWTON:

October weather has been favorable to the prosecution of farm work so far. The continued dry weather, however, has put the small grain crops in need of moisture.

From the tenth to the twentieth the maximum temperatures varied from 82 to 85, while the minimum temperatures ranged from 48 to 64. Since that time the weather has been much cooler. The first killing frost occurred on the night of twenty-third, when the minimum temperature reached 30. Rather heavy frosts have fallen each night since. The frost period is about normal and will hasten the opening of late cotton bolls with beneficial results.

Harvesting of all late sorghum crops is now completed. As usual the July 1 and 15 plantings were of but little value.

Small grain seedings made on the ninth of October resulted in good stands, except one plat of rye that was drilled in cotton stalks. Land that was prepared early in the season contains enough moisture to permit the young wheat

Lawton, contd.

and barley plants to become pretty well established. Where the crops were drilled in cotton or planted on late plowing the lack of moisture will soon prove to be a serious handicap.

Precipitation since the latter part of August amounts only to 1.33 inches. Wind movement during the last two weeks has been exceedingly low.